WMO
Performance Assessment Report

2020 - 2022

Long-term Goal 4

Close the capacity gap on weather, climate, hydrological and related environmental services:

Enhancing service delivery capacity of developing countries to ensure availability of essential information and services needed by governments, economic sectors and citizens.

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Alliance for Hydromet Development launched

Spearheaded by WMO, the Alliance brings together major international development, humanitarian and climate finance institutions, collectively committed to scale up and unite efforts to close the hydromet capacity gap by 2030. It aims to increase the effectiveness and sustainability of hydromet investments by forging a collaborative partnership which recognizes and leverages the respective competencies and expertise of its members. The Alliance was launched at the 25th session of the Conference of Parties (COP25) of the United Nations Framework Convention on Climate Change (UNFCCC) on 10 December 2019. The Climate Investment Funds joined the Alliance in October 2020.

The Alliance Members have committed to strengthen the capacity of NMHS for sustained operation of observational systems and data exchange as well as to better coordinate and design investments to best support developing countries. The actions of the Alliance to close the hydromet capacity gap are guided by the principles of United Nations agreements, including the Sustainable Development Goals under the 2030 Agenda for Sustainable Development, the Paris Agreement on climate change and the Sendai Framework for Disaster Risk Reduction 2015-2030.

First Hydromet Gap Report published

Published in July 2021 as an output of the Alliance for Hydromet Development, the Hydromet Gap Report presents the findings of the road-testing of the Country Hydromet Diagnostics (see SO 4.1). It shows that many countries do not have the resources to generate long-term basic weather observational data, and therefore are unable to share it with the global system.

The report stresses that hydromet investments make massive economic sense. They create a triple dividend that includes:

- **avoided losses** – reliable and accurate early warning systems save lives and assets worth at least ten times their cost;
- **optimized production** – the estimated annual benefits of improved economic production through the application of weather forecasting in highly weather-sensitive sectors amount to about USD 96 billion;
- **improved long-term strategic response to climate change –** The Global Commission on Adaptation estimates that strategically investing USD 1.8 trillion between 2020 and 2030 across the globe could generate USD 7 trillion in total net benefits. Hydromet services are providing the underpinning for these investments (see SO 2.1).

A second report is planned ahead of COP-28 in late 2023.

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Fourteenth World Meteorological Organization Symposium on Education and Training (SYMET-14)

Organized by the WMO Education and Training Office once every four years, SYMET-14 took place from 22 to 25 November 2021 in a virtual format focusing on "**Education and Training in a Period of Rapid Change**." The discussions focused on the challenges that WMO and its Members face in rapidly progressing technology, increasing service delivery expectations, globalization of the meteorological enterprise, growth in urban environments, and the impacts of climate changes.

The Symposium was attended by 280 registered participants from 65 WMO Members, representing developed, developing and least developed countries and a gender ratio of 53% female and 47% male.

SYMET agreed on an outcomes statement, including a series of recommendations on how to prepare and train specialists to allow them to meet the requirements of the future, the development of new content areas, as well as delivery modes and new forms of instructional media. **It highlighted the paramount importance of greater investment in education and training to meet rapidly growing needs**.

The Symposium strongly endorsed the WMO Global Campus initiative as a mechanism to strengthen international and regional collaboration needed to advance global Earth system science and prediction training needs. It was recommended to broaden its concept to include mentorship and peer-to-peer collaboration on the development of new resources and innovations.

A comprehensive report of the event was published in 2022: ***Education and Training in a Period of Rapid Change: Highlights of the Fourteenth WMO Symposium on Education and Training*** **(WMO-No. 1291).** This report offers more than an account of the activities that took place during the Symposium. The publication highlights challenges for the delivery of education and training activities (Chapter 1), including those presented in more detail by keynote speakers, but also explores increased collaboration and cooperation as a way of addressing these challenges (Chapter 2). In addition, the publication contains recommendations from the participants of SYMET-14 directed to policy makers and governments, to WMO and other international organizations, and to the education and training community, that can contribute to meet the growing requirements for education and training.

Forward perspective

In the next year, 5000 international participants are expected to benefit from distance learning courses offered by RTCs; 1500 trainees from long- and short-term training courses; and 150 short- and long-term fellowships are to be awarded to enhance the basic capacity of experts to provide services. Staff competencies in at least 80 NMHSs are expected to be improved and the capabilities for distance learning of 20 RTC components enhanced. WMO will further work on strengthening Global Campus partnerships among RTCs and other WMO Centres and universities.

Further, under LTG 4, a strong focus will continue being placed on resource mobilization for implementation of the priorities identified in the WMO Strategic Plan, including support to Members with the development of leadership and management skills, legislation, national strategic plans (NSPs), and National Frameworks for Weather, Water and Climate Services. Tighter relations will further be sought with the UN and other regional entities, including financing institutions.

Long-term Goal 4 | 2022 Key Performance Indicators (Summary)

Strategic Objective 4.1

KPI 4.1.1	KPI 4.1.2a	KPI 4.1.2b	KPI 4.1.2b
NMHS with a strategic plan for their operations	NMHS with a legislative act for meteorology	Government agencies without commercial activities	Government agencies with commercial activities
79 *snapshot**	**92** *snapshot**	**70** *snapshot**	**43** = 0%

Strategic Objective 4.2

KPI 4.2.1	KPI 4.2.2	KPI 4.2.3
Experts trained by WMO Centers and ETR partners	Fellowships provided under the WMO Fellowship Program	Members implementing competency assessment and trainings according to WMO competency frameworks *(at least one)*
630 ▲8%	**107** ▲ 102%	**115** ▲100%

Strategic Objective 4.3

KPI 4.3.1	KPI 4.3.2	KPI 4.3.3	KPI 4.3.4
Members receiving assistance from WMO advisory services	Members benefiting from WMO-catalyzed projects	Total volume of funds raised	Permissive legal basis for public-private engagement
32	**124** ▲143%	**$24.5M** *for new projects*	**19** ▲100%

**As this data originates from yearly surveys, it is heavily affected by response rate volatility.*
Comparison period: 2020 to 2022
Note: 32 Members received support from WMO advisory services in 2020-2021. The approach was discontinued in 2022 and is being replaced with alternative mechanisms (e.g. twinning arrangements)

Strategic Objective 4.1

Address the needs of developing countries to enable them to provide and utilize essential **weather, climate, hydrological** and related environmental services

Outcome/Focus Area A:

Improve understanding of the specific capacity needs of each developing country with respect to technical, institutional and human resources, to enable them to provide adequate weather, climate, hydrological and related environmental services, in particular for protection of life, property and economic productivity

#Technical regional conferences #Members profiles #Country Hydromet Diagnostics #Tropical cyclone regional bodies #Capacity development of NMHSs in LDCs and SIDS increased in critical economic sectors

Outcome/Focus Area B:

Mobilize strategic resources involving development partners and national governments and assisting NMHSs to develop long-term strategies and operational plans to address the identified capacity needs

#Legislation #National Strategic Plans

Outcome/Focus Area C:

Increase visibility and sustainability of NMHSs in LDCs and SIDS by demonstrating, promoting and communicating the societal-economic value of their weather, climate, water and related environmental observations, research and services

#Advocacy and partnership with regional and sub-regional bodies #Awareness raising of NMHS role and value #Agreements with ESCAP #Release of the first round of reports on the State of Regional Climate

Overview

Strategic Objective 4.1

Address the needs of developing countries to enable them to provide and utilize essential weather, climate, hydrological and related environmental services

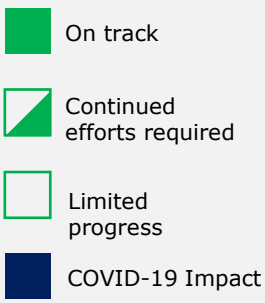
SDG Contribution

ON TRACK

- **All Regional Associations** aligned their structures and working mechanisms to the reformed WMO constituent body structure.
- Regional Association Implementation Plans developed
- **6 regional conferences organized in all 6 regions**[1)]
- **Strengthened WMO Regional Offices (ROs):**
  - RO in Addis Ababa (Region I) created
  - Bahrain Office transformed into an inter-regional office servicing the Arabic speaking countries
  - An office in Croatia established
  - 18 new staff appointed in ROs since 2018
- Community Platform developed and operational
- New templates for meetings emerged and for intra- and inter-regional cooperation, which are changing the way WMO regional business is run (e.g. regional high-level conferences, more frequent management group meetings, shorter RA sessions).
- **16 Members supported with the development of National Strategic Plans and Frameworks** for Weather, Water and Climate Services (NS-FWCS), 2 plans are currently being developed (Region IV and V).
- A comprehensive review of the WMO regional concept and approaches and an independent review of the effectiveness of the WMO Regional and Representative Offices conducted.

CONTINUED EFFORTS REQUIRED

- Approaches and tools for assessing the capacity of developing countries have been developed and are being tested but require a full rollout prior to assessing their effectiveness.
- **Socio-economic benefit studies are conducted in very few countries globally.** Continued efforts are required in the longer term on raising NMHS profile and visibility.
- WMO supported 16 Members with the development of legislation and National Strategic Plans but up to a third of Members in Regions I, IV and V are without such plans.
- 11 pieces of legislation were developed with WMO support in the Caribbean, the Pacific and Africa. **However, legislation regulating hydrometeorology is still absent in Region I and IV** (Figure 4.3).
- Whereas partnerships with UN regional bodies have been strengthened, more presence and visibility is required, including with regional financial institutions. **Strategies are being formulated to provide UN Resident Coordinators and others with WMO activities and information** in countries where there is no WMO office presence.



[1)] Region I (Addis Ababa, Ethiopia, 13-15 February 2023), Region II (Abu Dhabi, United Arab Emirates, 13-16 March 2023), Region III (Cartagena, Colombia, July 2022), Region IV (Kingston, Jamaica, 6-9 February 2023), Region V (phase 1 in Brisbane, Australia, 23-24 September 2022 and phase 2 in Nadi, Fiji, 11-12 October 2022) and Regional VI (Geneva, Switzerland, 2-4 November 2022).

Overview

Strategic Objective 4.1

Address the needs of developing countries to enable them to provide and utilize essential weather, climate, hydrological and related environmental services

SDG Contribution

COVID-19 IMPACT

- WMO's regional activities were only moderately affected. **The majority of the planned meetings were held on time in a virtual format** (RA sessions, meetings of management groups and other subsidiary bodies, tropical cyclone meetings). WMO's regional activities were therefore only moderately affected.
- At the national level, assistance with the development of national strategic plans and legislation regulating hydrometeorology continued, as did fundraising efforts.
- Given their field nature, **projects were more significantly impacted** in terms of inability to travel, deliver and install equipment (due to the global shortage of semi-conductors linked to the pandemic), deploy experts or conduct face-to-face training (e.g., for radiosondes and hydrogen generators). Nevertheless, many activities were still implemented as planned and the remainder were adapted to the new realities with alternative modes of delivery, whenever feasible. Where national gatherings could take place, meetings were conducted in-person, with international experts and consultants connecting remotely. In these cases, increased national ownership and involvement were reported as positive outcomes.
- Activities that were initially postponed in 2020 picked up pace in 2021 and were fully resumed in 2022.

CHALLENGES & RISKS

- **High turnover among PRs and NMHS Directors** creates continuity issues.
- **Critical gaps exist in the information available on Members in the Community Platform**. Whereas full monitoring data was collected from 102 Members and partial information from additional 51 Members in 2021-2022, data gaps made the establishment of baselines on critical elements of the EW4All Initiative difficult.
- The linkage between WMO, NMHS work and the SDGs should be strengthened and more effectively communicated to UN and other partners.

On track

Continued efforts required

Limited progress

COVID-19 Impact

Challenges & Risks

Focus Area A

Country Hydromet Diagnostics (CHD)

A Country Hydromet Diagnostics (CHD) Tool was developed, which draws on and adds value to existing WMO assessment material by synthesizing existing approaches and data into an easily interpretable form, validating the information provided by Members through a peer-review process, and obtaining missing information. The CHD aims at informing policy and investment decision-making, in particular guiding investments of the members of the Alliance for Hydromet Development. It provides a maturity assessment of NMHS and their operating environment along the ten most critical elements of the value chain.

In 2021 the tool was "road-tested" in nine countries with the involvement of 16 WMO Members and financed by 8 Alliance members. The country reports issued were as follows:

1. Afghanistan (peer reviewer: Turkish State Meteorological Service)
2. Chad (peer reviewer: Direction Générale de la Météorologie, Maroc)
3. Cote d'Ivoire (peer reviewer: Direction Générale de la Météorologie, Maroc)
4. Kazakhstan (peer reviewer: ZAMG, Austria)
5. Kyrgyz Republic (peer reviewer: MeteoSwiss, Switzerland)
6. Liberia (peer reviewer: NiMet, Nigeria)
7. Maldives (peer reviewer: IMD, India)
8. North Macedonia (peer reviewer: ZAMG, Austria)
9. Sierra Leone (peer reviewer: NiMet, Nigeria)

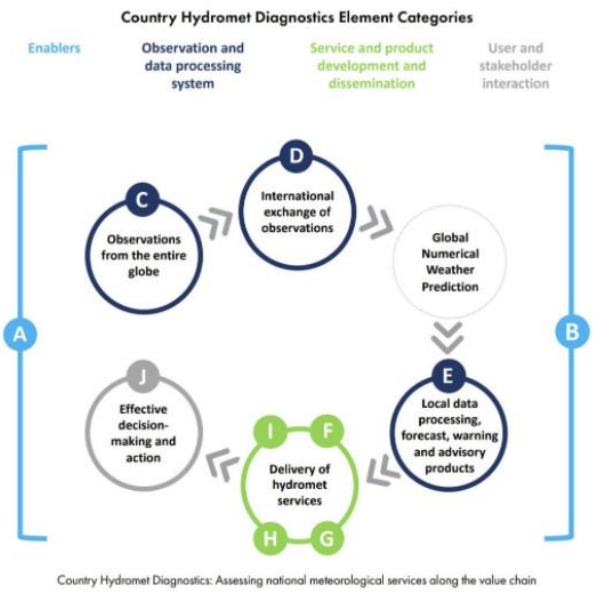


Figure 4.1 Country Hydromet Diagnostics, Alliance for Hydromet Development, 2022

Starting in April 2022, Country Hydromet Diagnostics will be conducted in 25 countries as part of the Readiness Phase of the Systematic Observations Financing Facility (SOFF)[2]. Of these, 13 are among the first batch of at-risk countries to receive coordinated support under the EW4All Initiative. In addition, MHEWS Diagnostic Reports are being developed as part of the CREWS projects in Chad and Togo. In addition, **MHEWS Diagnostic Reports are being developed** as part of the CREWS projects in Chad and Togo.

Full monitoring data was collected from 102 Members and partial data from additional 21 Members in 2021, following a coordinated campaign aimed at streamlining the collection of data and reducing the number and frequency of surveys. The information was used for measuring the Key Performance Indicators (KPIs) presented in this report, inform the strategic planning process, update Members' Profiles on the Community Platform, and feed data into CHD. To inform the development of the EW4All Executive Action Plan, additional data on the provision of warning services, hydrological services and disaster risk reduction was collected from over 30 Members in 2022.

Forward perspective

The Regional Offices will continue assisting Members in providing monitoring data for the WMO Monitoring System, Members' Profiles and CHD. Enhancements to the CHD methodology will be implemented based on feedback from the peer reviewers and lessons learned.

[2] Belize, Bhutan, Burkina Faso, Cabo Verde, Chad, Democratic Republic of the Congo, Ecuador, Ethiopia, Fiji, Grenada, Guyana, Kiribati, Liberia, Madagascar, Malawi, Maldives, Nepal, Rwanda, Samoa, Senegal, Solomon Islands, South Sudan, United Republic of Tanzania, Timor-Leste, Tuvalu.

Focus Area B

WMO supported 16 countries and territories (all SIDS and/or LDCs) with NSPs which are at different stages of development: Anguilla, Antigua and Barbuda, Burkina Faso, Democratic Republic of Congo, Dominica, Fiji, Federated States of Micronesia, Grenada, Guyana, Haiti, Jamaica, Kiribati, Marshall Islands, Palau, St Kitts and Nevis, and St Vincent and the Grenadines. The development of two NSPs for the Turks and Caicos and the Cayman Islands is ongoing. For more information, see Project Highlights.

Figure 4.2 presents a regional breakdown of the proportion of Members with NSPs in place or with NSPs being drafted. Regardless of the large data gaps in some regions, it is clear that the majority have long-term plans that cover key WMO priority areas, such as enhanced weather and climate services delivery, improvement of operational forecasts, including warning products, implementation of WIGOS and WIS, automation of observing networks, etc. Of the 18% of Members with no NSPs, 12% are in the process of drafting ones, particularly in Regions I and III[3].

Percentage of NMHS with strategic plans in place, by region

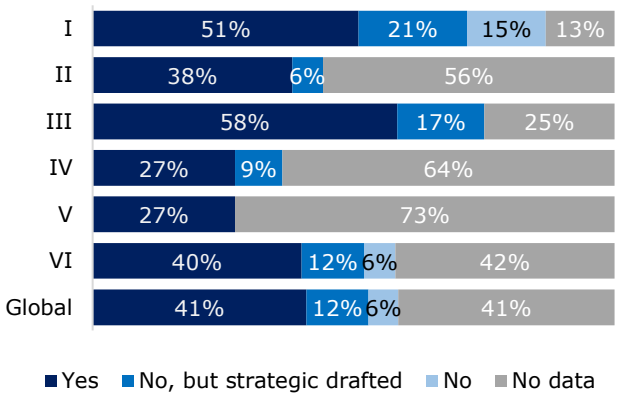


Figure 4.2 NMHS with strategic plans (by region) as of December 2021. Source: WMO Monitoring

Of the existing NMHS strategic plans on which information is available **59% are deemed to be up-to-date and aligned to international and regional frameworks**. 19% need major changes (in Regions I, II and VI) and 22% require alignment to relevant international, regional and national plans (except in Region IV).

71% of the NSPs globally are approved by the institution with higher authority over the NMHS (e.g. ministry). However, the proportion is much lower in Region I (54%) and Region IV (57%). Such buy-in on behalf of the overseeing institution is deemed important for engagement, funding and understanding of the mandate and value of NMHS.

In terms of reporting and accountability, most NMHS (61%) report on implementation of their strategic plans annually, 7% biennially, and 19% on an ad hoc basis. 12% do not issue any reports. Of these, the majority are located in Region I.

Lastly, with regard to operationalization, the **vast majority of NSPs globally (83%) are complemented with implementation plans** except in Regions I and IV where a sizeable share (30% and 50%, respectively) are not coupled with implementation plans, which points to a need to strengthen operational planning in these regions.

Forward perspective

Assisting Members with updates to NSPs and NS-FWCS will be maintained as a priority in 2023 and directed to Regions I, II, IV and V, particularly in terms of support with NS-FWCS. The level of implementation of the NSPs will also be examined. Resource mobilization will further continue through the CREWS Programme and other initiatives funded with voluntary contributions from both bilateral and multilateral donors.

Focus Area C

A key aspect monitored is the extent to which legislation regulating meteorology (or hydrometeorology) exists in WMO member countries and territories. As evident from Figure 4.3, this is predominantly the case in Regions I and III and VI and to a lesser degree in Region VI. 25 Members report that no legislation exists on the subject. Their regional breakdown is as follows: 10 from Region I, 6 from Region IV, 5 from Region II, 3 from Region VI, and 1 from Region V. Missing data prevents more accurate regional analysis based on a representative sample of membership.

[3)] The data from Region V is not representative, gaps exist on Region IV.

WMO supported the development of a Model Meteorological Bill for the Caribbean, which 8 countries have adapted to national legislation (see Project Highlights). One further adaption in the Caribbean is ongoing. Additional two countries in the Pacific (Kiribati and Solomon Islands) have drafted legislation and/or instructions. Moreover, the Water Resources Bill of Tonga was endorsed by Parliament.

WMO Members with a legislative act regulating meteorology (or hydrometeorology)

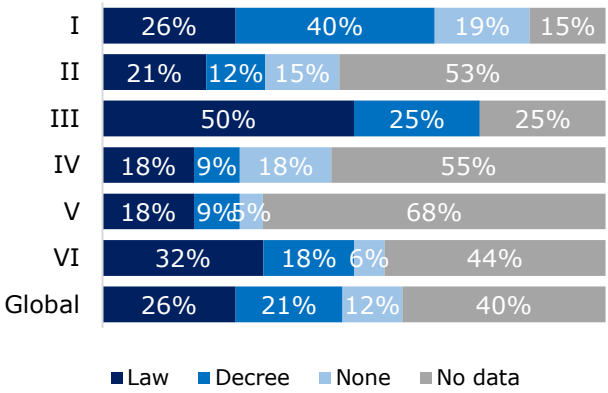


Figure 4.3 NMHS with a legislative act regulating meteorology (or hydrometeorology), by region, as of December 2021. Source: WMO Monitoring

Apart from Region VI, **the majority of NMHS in all other regions are government-owned agencies without commercial activities**. Almost half of the NMHS in Region VI for which information is available are government-owned with commercial activities. The same seems to be the case in Region V but data is lacking on the majority of Members.

As mentioned earlier in this report, socio-economic benefit studies are conducted in very few countries globally. See SO 1.4 for more data and analysis on the topic.

Forward perspective

WMO will continue to support Members with the development of legislation, particularly in Regions I, II, IV and V. Another key priority which will be sustained involves advocacy efforts in demonstrating the key role of NMHS, including through socio-economic benefit analysis. The digitization of NMHS is an emerging issue which may require attention, hence the theme of the recent RA I Regional Technical Conference (RECO) of 13-15 February 2023, was on "Enhancing capacities of hydrometeorological services in Africa towards digital transformation: 2024-2027".

Project highlights

Adaptation Fund | Integrating Flood and Drought Management and Early Warning for Climate Change Adaptation in the Volta Basin

Region I | CHF 7 Mio | 2019-2023

Amidst extreme weather conditions hindering the development potential of the Volta Basin, WMO, together with partners in the region is working to provide appropriate solutions to ensure sustainable socio-economic development and to increase the resilience of communities and ecosystems of the Basin.

Flood and drought risk maps were developed with the involvement and engagement of 61 technicians (from NMHSs, disaster management, water resources, academia, geographic institutes, etc.) for the present and projected climate. As a next step, the drafting of a risk prevention and management strategy is ongoing through 6 national workshops held, considering results and policy recommendations from the Volta Flood and Drought Risk Profile.

WMO projects by Region

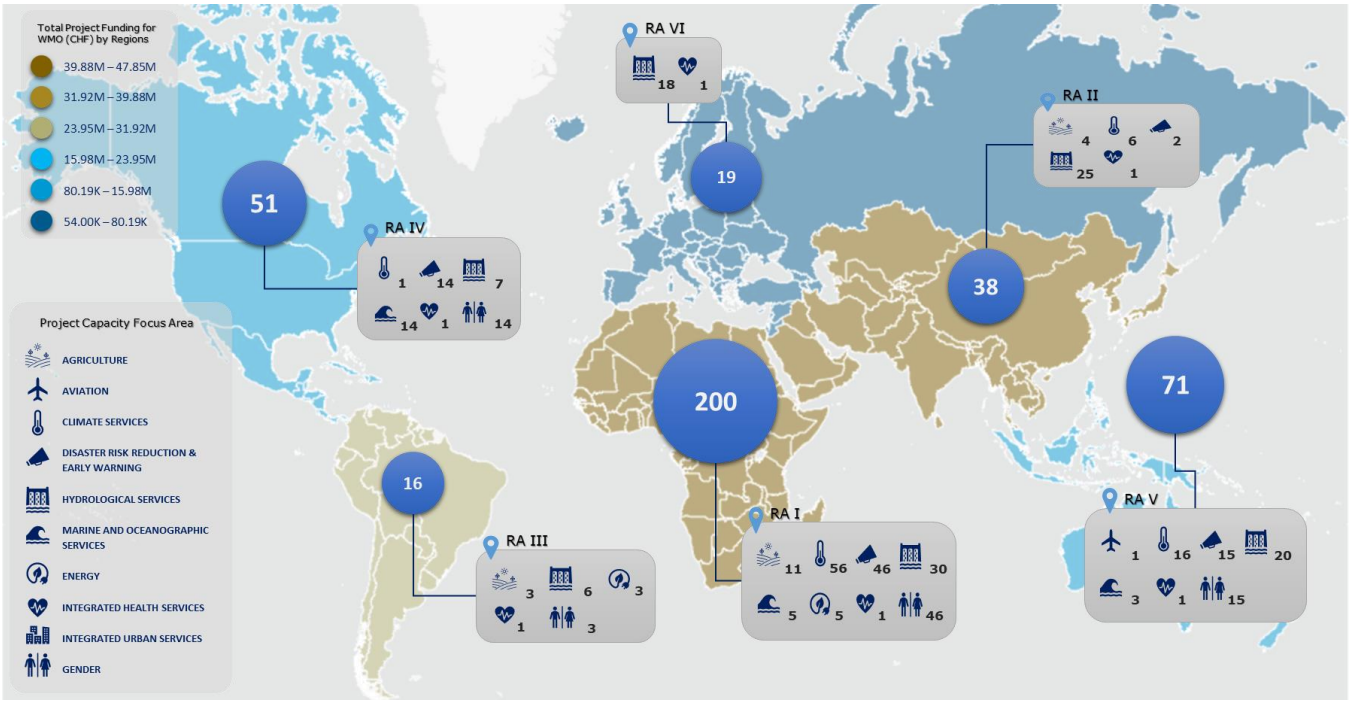


Figure 4.4 Map on projects by WMO Member country or territory, WMO projects, March 2023

Project highlights

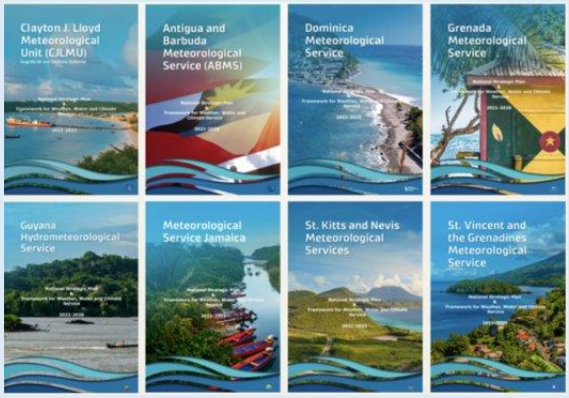
CREWS Caribbean and CREWS Pacific SIDS 2.0

RA IV | CHF 2,2 Mio (WMO component) | 2018-2023 and RA V | CHF 3,2 Mio (WMO component) | 2021-2024

Under the CREWS Caribbean Initiative to strengthen hydro-meteorological and early warning services in the Caribbean, WMO, in joint collaboration with the Caribbean Meteorological Organization (CMO), empowered NMHSs through strengthening meteorological legislation and policy as well as NSPs and Frameworks for Weather, Water and Climate Services, including action plans. A Model Meteorological Legislation and Policy was developed and endorsed by CMO members in 2021. This model was adapted to the national legislation in Anguilla, Antigua and Barbuda, Belize, Grenada, Jamaica, St Kitts and Nevis, Saint Lucia, and St Vincent and the Grenadines[4]. The "Met-Bills" of Grenada and St Kitts and Nevis are already under ministerial review. The role and mandate of NMHS was further strengthened through NSPs and Frameworks for Weather Water and Climate Services (FWWCS) which were endorsed in Anguilla, Antigua and Barbuda, Dominica, Grenada, Guyana , Jamaica, St. Kitts and Nevis, St Vincent and the Grenadines, Dominica and Guyana[5].

NSPs and National Frameworks for Weather, Water, Climate and Oceans Services (FWWCOS) are further under development for the Solomon Islands, Samoa and Vanuatu, and are planned for Nauru. NSPs were finalized for Kiribati, Tuvalu, Fiji, Republic of the Marshall Islands, Federated States of Micronesia, Palau and Tonga under the CREWS Pacific SIDS project. Recently, in Tonga, the NSP and FWWCOS were completed and reached final endorsement by the government in 2023.

The legislation and NSPs, including FWWC(O)S, are designed to support the NMHSs in achieving appropriate legal mandates with well-defined roles, responsibilities, and adequate resources. These activities are thus foundational to strengthening the NMHSs and overall resilience and preparedness of Members in the regions.



Covers of various Caribbean National Strategic Plans & Frameworks for Weather, Water and Climate Services.

Online meeting held in August 2022, four National Strategic Plans were endorsed.

[4] The development is ongoing.
[5] Development is ongoing for Turks and Caicos Islands and the Cayman Islands.

Strategic Objective 4.2

Develop and sustain **core competencies and expertise**

Outcome/Focus Area A:

Support Members in the recruitment and retention of staff with the appropriate qualifications and competencies required for effective service delivery through appropriate education and training programmes focused on WMO standards and recommendations

#Strengthened capacity of NMHS professionals through short-term courses and distance learning #Fellowships #Strengthened management skills of NMHS directors and upper/middle management #Guidelines on management of training institutions, competencies and compliance evaluation #Training planning templates #SYMET #Basic Instructional Package for Climate Services (BIP-CS)

Outcome/Focus Area B:

Support cooperation between developing and developed Members and full utilization of the WMO Regional Training Centres

#Improved capacity of RTCs #External reviews of RTCs #Partnerships among RTCs and other WMO Centres, universities and research institutes #Global Campus E-Library #Global Campus Events Calendar #Training modules #Training curricula #Volunteers initiative mechanism for exchange of experts between NMHS

Overview

Strategic Objective 4.2

Develop and sustain core competencies and expertise

SDG Contribution

ON TRACK

- **630 participants supported by WMO-ETR in short-term courses in 2022**, representing a 122% increase since 2019 due to a shift to online training support.
- WMO RTCs served 6,685 international participants in 2022, of which 5,078 benefitted from distance learning courses, a 25% increase since 2020 and a threefold increase since 2019.
- WMO Global Campus Innovations published, including 40 papers in 4 volumes.
- **743 education and training resources are available for Members through the WMO Global Campus e-library.**
- A Primer on Public Policy and Management with a Focus on National Meteorological and Hydrological Services published (WMO-No. 1289).
- **WMO Capacity Development Strategy revised and submitted to Cg-19 for adoption based on EC recommendation.**
- Survey on the Status of Human Resources in National Meteorological and Hydrological Services: Staff, Competencies and Qualifications conducted and published (WMO-No. 1305).
- SYMET-14 held online from 22 to 25 November 2021 on the theme of "Education and Training in a Period of Rapid Change." A comprehensive report of the event was published in 2022 in English, French and Spanish (WMO-No. 1291).
- The revision of the Basic Instruction Package for Meteorologists and Meteorological Technicians was completed and the Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology, Volume I – Meteorology (WMO-No. 1083) was approved by EC-76 . The resulting amendments in Technical Regulations, Volume I: General Meteorological Standards and Recommended Practices (WMO-No. 49) (Part VI and Appendix A) were submitted for Cg-19 adoption.
- **Increased use of modern technology assisted collaboration among training partners, including RTCs, during the past two years.** Four RTCs in Algeria, Egypt, India and Indonesia successfully run the first online phase of the group fellowship training on new numerical weather prediction in 2021 by working closely together with WMO. F2F components of these training courses were organized with RTCs in Algeria, Egypt, India and Indonesia in 2023. The ETR network was strengthened, and training capability was built by sharing experience and exchanging information.

On track

Continued efforts required

Limited progress

COVID-19 Impact

Challenges & Risks

Strategic Objective 4.2

Develop and sustain core competencies and expertise

SDG Contribution

CONTINUED EFFORTS REQUIRED

- From Cg-18 until the end of 2022, **91 new PRs were appointed**. Of these, **64 took advantage of the online and face-to-face induction training offered in 2021 and 2022**. The training programme will continue in 2023.
- The Leadership and Management Programme continued, with a webinar developed in collaboration with the UK Met Office, in which 41 experts from 29 Members participated. The online training course "Essentials of Management 2022-23" with a duration of 28 weeks started on 3 October 2022 and has a total of 61 participants from 31 Members.
- **Continued support to RTCs and other training providers is needed**, particularly on the provision of guidance to prepare training using new modes of delivery, such as distance learning and blended courses.
- Most Members implement competency frameworks for aeronautical personnel and meteorological observations, but few do so for personnel providing climate services and supporting WIS.
- **Some delays were experienced in the preparation of the Basic Instructional Package for Climate Services (BIP-CS) due to the need for broad coordination**. Continued effort is needed to advance and sustain the development of the WMO Global Campus. The endorsement of the Consortium of WMO Education and Training Collaborating Partners (CONECT) by EC-75 is a step further in support of the Global Campus. The first meeting of the Consortium took place in April 2023.

On track

Continued efforts required

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Strategic Objective 4.2

Develop and sustain core competencies and expertise

SDG Contribution

On track

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COVID-19 IMPACT

- The pandemic had a significant impact on training delivery, with close to 50% of the SO 4.2 activities affected strongly or moderately. The travel bans around the globe made face-to-face (F2F) trainings impossible and prompted a sharp increase in the demand for distance learning. Many trainings were initially postponed but subsequently conducted online.
- This sudden and unexpected change was not easy to carry out and required investment in e-platforms and technology, but WMO and its partners adapted well to the new realities. Curricula were redesigned and course content and pedagogical methods adjusted to online and blended delivery.
- A major effect was the demonstration of the untapped potential of distance learning as an effective means of delivery.
- The WMO Fellowships Programme was negatively affected, with the number of requests and awarded fellowships dropping sharply in 2020-2021. Nevertheless, the number of awarded fellowships resumed its pre-COVID level in 2022 (see Figure 4.9).
- Missions to conduct RTC reviews were not possible, but 3 reviews were conducted remotely.
- More analysis on the impacts of Covid-19 on capacity development is available in the Overview of Focus Areas section below.

CHALLENGES & RISKS

- **The sudden change from face-to-face and blended learning to full distance learning was a major challenge** in terms of:
  - Planning and managing the training events considering the limitations and the new environment.
  - Developing new, dedicated training resources and adaptation to new approaches.
  - Dealing with technological disparities (internet connections, technical support) that determined difficulties in training delivery.
  - Not all the trainers involved in the instructional process had the benefit of participating in a train-the-trainer course containing topics of distance learning.
- Associated to these challenges, the following risks were identified:
  - Members using ineffective processes for planning and delivering training in distance learning format.
  - Trainers and trainees not adapting properly to the new learning environment.
  - **Members' learning needs not fully addressed due to limited training capacity using only traditional face-to-face approaches.**
  - Learning resources and events not fully utilized due to low accessibility opportunity.
- Mitigation actions were considered and applied with good results observed in the reports of WMO RTCs.

Focus Area A

Short-term training sponsored by WMO[6]

Figure 4.5 illustrates the enormous increase in the number of WMO-sponsored trainees that participated in short-term courses, with a particular peak in 2021. As mentioned, the surge was a direct result of the shift from face-to-face to distance learning and blended training that ensued in response to the Covid-19 pandemic.

In 2016-2019 the number of participants in face-to-face trainings did not exceed 243 on average due to the high costs related to travel and the limited number of slots associated with in-person events. As evident from Figure 4.5, the number of trainees doubled and tripled in the height of the pandemic, settling at a level representing a 122% increase in 2022 as compared to 2019. There is also an upward trend in the outreach to female experts.

Increase in WMO-sponsored trainees participating in short-term courses

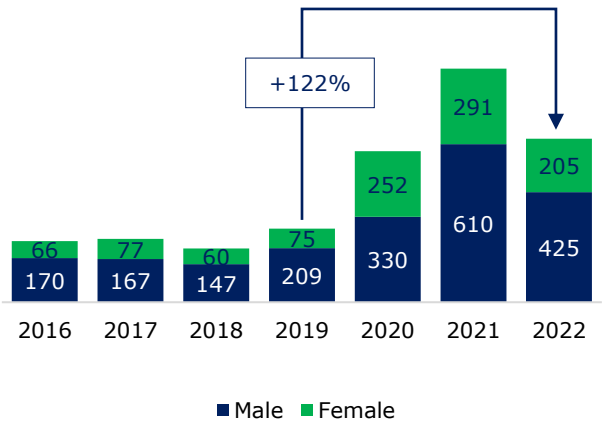

Figure 4.5: Number of supported experts trained in short courses offered by WMO, WMO RTCs or by Education and Training Partners (ETR Partners), by gender. Source: WMO ETR Office Records, 2022

In terms of training providers, about half of the training participants took part in short courses offered by WMO ETR Office and WMO technical departments. The rest attended capacity development events at the RTCs such as the ones in China, Iran, Israel, Qatar, the Russian Federation and Türkiye, and other ETR partners, such as Hong Kong China and Singapore.

In addition, **a large number of capacity development events were organized as part of technical activities and projects associated with other LTGs**. The range of topics varied widely and included, among others:[7]

- Integrating climate risk information into climate action
- Supporting climate action through climate indices
- Climate information for adaptation
- Climate risk management
- QMS internal auditing
- Training of Trainers
- Public weather services, including impact-based forecasting and warning services
- Tropical cyclone forecasting and warning services
- Severe weather forecasting, including enhanced capacity in interpretation and use of numerical weather prediction
- Marine meteorological services
- Agrometeorology
- Leadership and management (see Overview);
- Quality, Traceability and Calibration
- OSCAR/Surface
- Transition to Automated Ground-based Measurements

Short- and long-term training offered by the WMO RTCs

The trend described above is observed in the number of experts trained at the WMO RTCs as well (see Figure 4.6). Based on annual reports, the RTCs and their associated components offered around 500 courses and served 4,391 international participants per year on average between 2016 and 2022.

The COVID-19 pandemic affected all courses, with the **most dramatic changes observed in the number of short-term F2F courses and the number of distance learning courses**. The travel restrictions imposed in many parts of the world were the major driver behind these rapid changes.

[6] The Education and Training Partners (ETR Partners) are the centers or partners with whom WMO co-sponsors courses. The list varies by year.
[7] Note that this is a non-exhaustive list.

Trends in WMO RTCs trainings offered and participants from 2016 to 2020

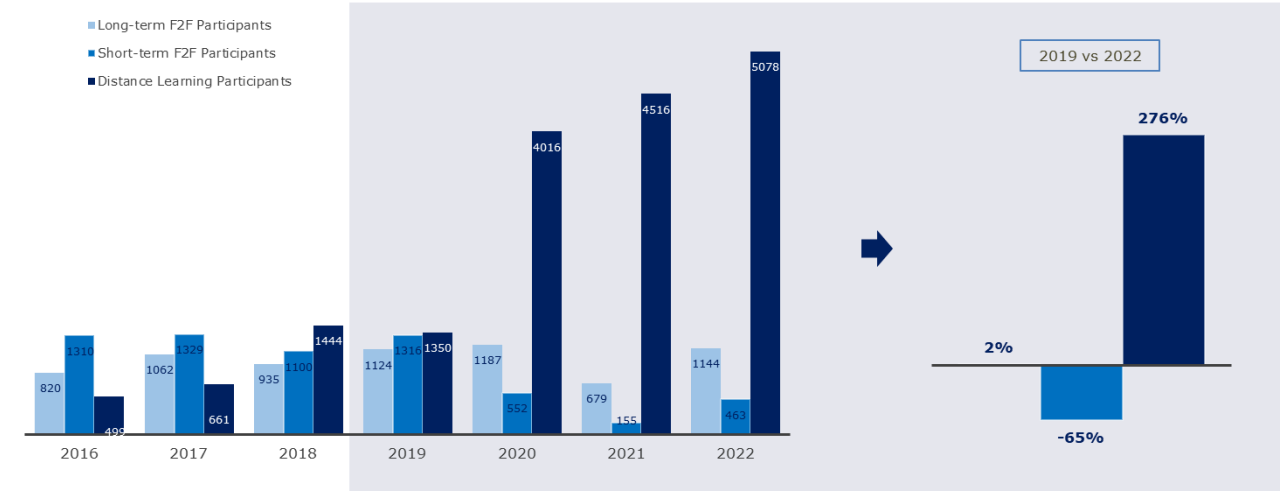

Figure 4.6: International participants served by RTCs between 2016 and 2022 (LHS). Changes in the number of international participants served by RTCs between 2019 and 2022. Source: RTC Annual Reports

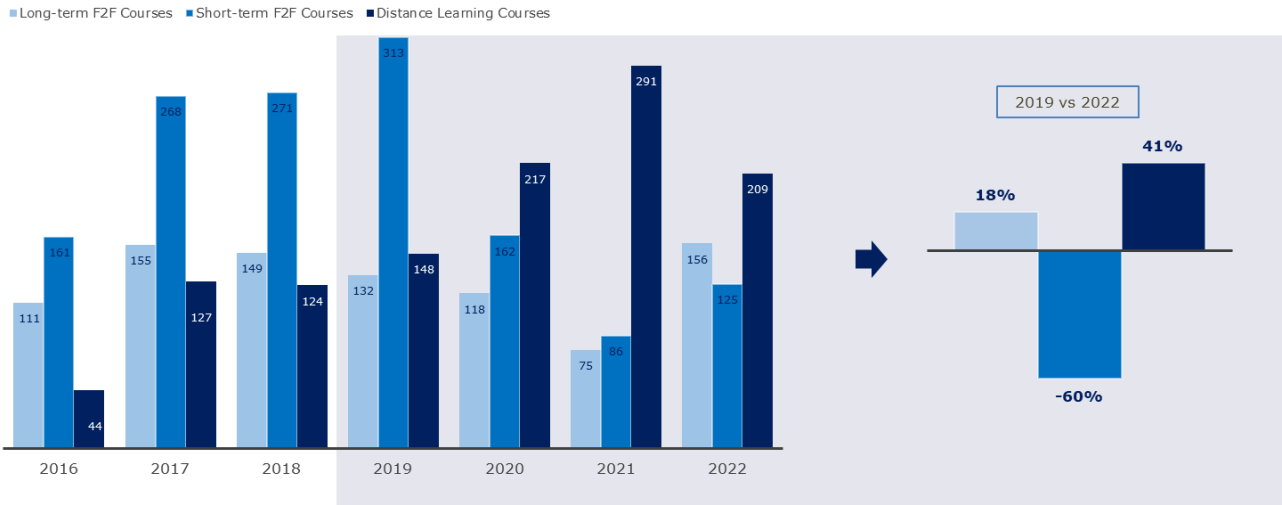

Figure 4.7: Courses offered by RTCs between 2016 and 2022 (LHS). Changes in the number of courses offered by RTCs between 2019 and 2022. Source: RTC Annual Reports

When the pandemic started in 2020 many short-term courses were either cancelled or converted to distance learning mode. Similarly, the long-term education programmes were converted to blended learning. The effect of these changes is illustrated on Figure 4.7 which shows a 48% drop in the number of short-term, F2F courses offered by the RTCs and an equivalent increase in distance learning as compared to 2019. The increase continued in 2021 in terms of distance learning courses and participants. In 2022, the offer of face-to-face courses resumed but they also included distance learning components in their delivery, a good practice since the pandemic.

In total, 5,078 international participants benefited from 209 distance learning courses offered by the WMO RTCs in 2022, which is triple the number of participants in 2019 (see Figure 4.6).

The use of distance learning courses helped the RTC network to respond to the Covid-19 pandemic without reducing its service to WMO Members. In addition to supporting their needs, distance learning also provides more opportunities for female participants to benefit from RTC courses. Figure 4.8 shows that distance learning provides a better gender balance compared to both short-term and long-term face-to-face courses.

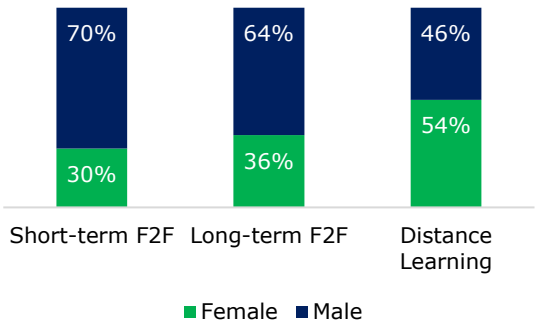

Figure 4.8 Average proportion of international participants (2016-2022) benefitting from RTC courses, by gender. Source: RTC Annual Reports

WMO Fellowships

WMO awards fellowships at several levels of study: certificate, diploma, Bachelor of Science (BSc), Master of Science (MSc), and doctorate (PhD). The interest in these varies from one year to another, with no particular trend observed.

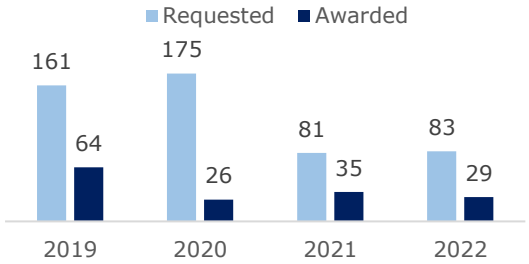

Figure 4.9 Number of fellowships requested versus awarded, WMO, March 2023

The WMO Fellowships Programme was negatively affected by the Covid-19 pandemic. **The number of fellowship requests decreased by 48% in 2021 as compared to 2019**.

Percentage of awarded fellows by gender, WMO, March 2023

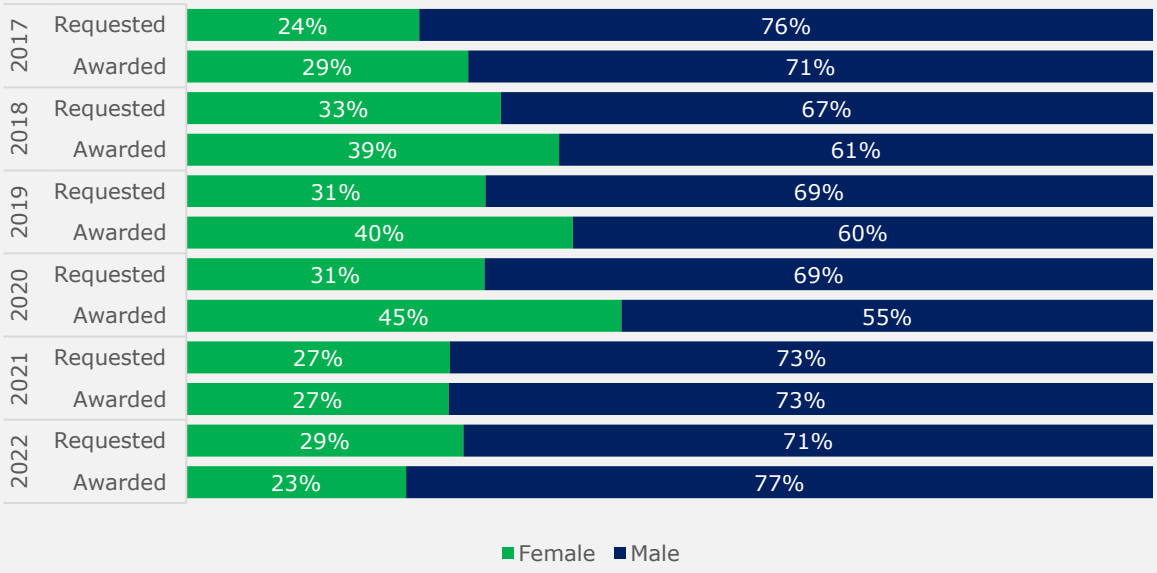

Figure 4.10 Percentage of awarded fellows by gender, WMO, March 2023

The number of fellowships awarded dropped by half from 64 to 32 between 2019 and 2021, respectively. 2022 saw a slight recovery and compensation for the opportunities lost.

Even though the fellowship applications from male candidates exceeded those of female candidates, WMO ensured a balanced distribution of the awarded fellowships. In 2020, over 40% of the fellowships were granted to women, though the share dropped drastically to 27% and 23% in 2021 and 2022, respectively (see Figure 4.10).

In terms of regional representation, Region I had the highest number of fellows, followed by Region II. The share of fellows from Region V doubled from 6% in 2020 to 12% in 2022.

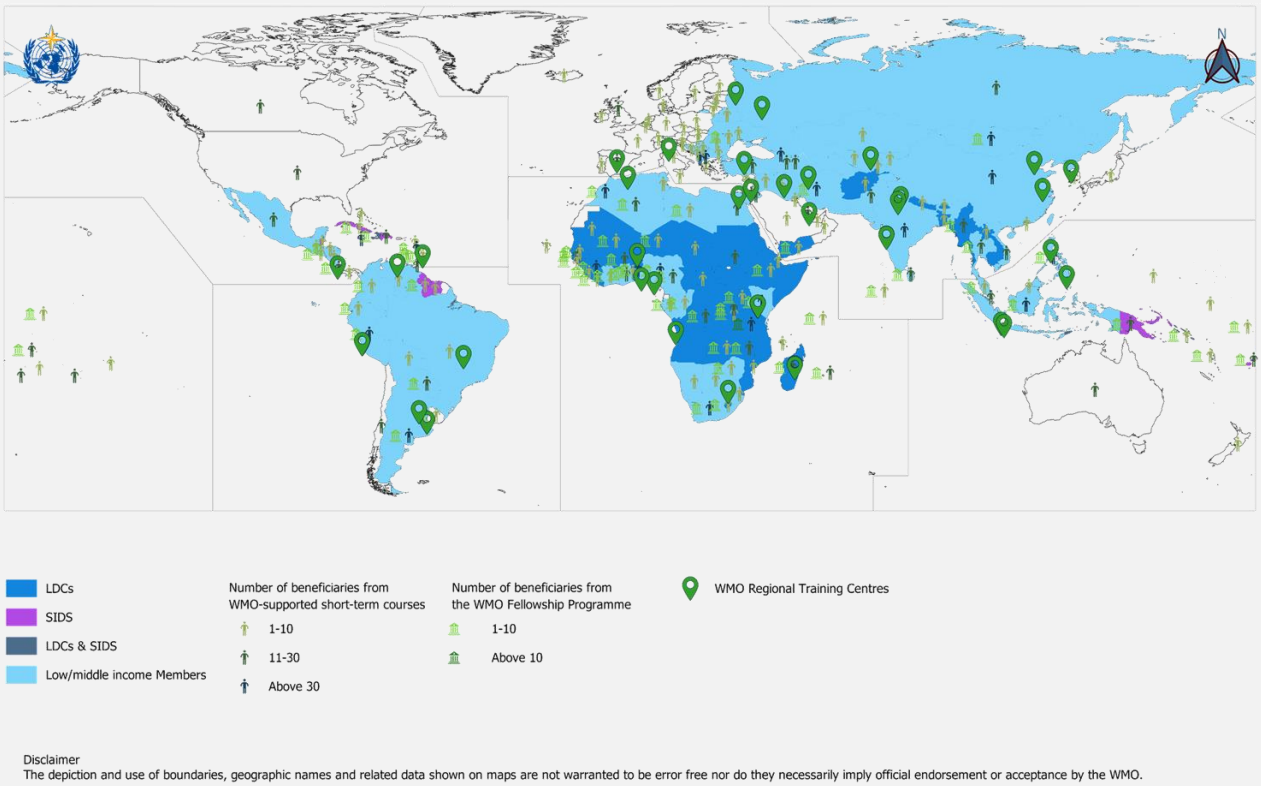

Figure 4.11 Map of beneficiaries of WMO Fellowships Programme and WMO-supported short-term courses by country or territory from 2019-2022, WMO, March 2023

Implementation of WMO Competency Frameworks

WMO monitors the extent to which Members implement WMO competency frameworks as documented in the WMO Technical Regulations, No. 49, Volume I.

Data on approximately half of Members is not available but it is clear from Figure 4.12 that the assessment and training according to competency frameworks for aeronautical meteorological forecasters and observers are the ones most implemented. This is not a surprise, given that the provision of aeronautical meteorological services is regulated by ICAO, with training and qualifications in accordance with the WMO requirements. Competency-focused training and assessment are part of the competency assurance process of all aeronautical meteorological personnel. The Competency standards were defined by the XVI WMO Congress in 2011.

Regardless of this fact, it is evident that the level of implementation of WMO competency assessment and training is generally low. The lowest is for weather broadcasters and communicators, WIS competencies, competency requirements for persons engaged in the development and delivery of products and services to meet user requirements, and education and training providers.

Forward perspective

The blended approach of training delivery is expected to be increasingly used as the most cost-efficient means with lower travel costs, involving online sessions as a prerequisite to shorter, in-person ones. **Thousands of trainees and fellows from over 100 Members are expected to benefit from short- and long-terms courses, distance learning and the WMO Fellowships Programme.** The new course for On-the-Job Trainers and Competency Assessors will increase awareness of the WMO competency frameworks and the need for implementation in all branches of meteorology. The publication of the Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology (WMO-No 1083) will be followed by an awareness campaign on updates, aimed at stimulating adoption.

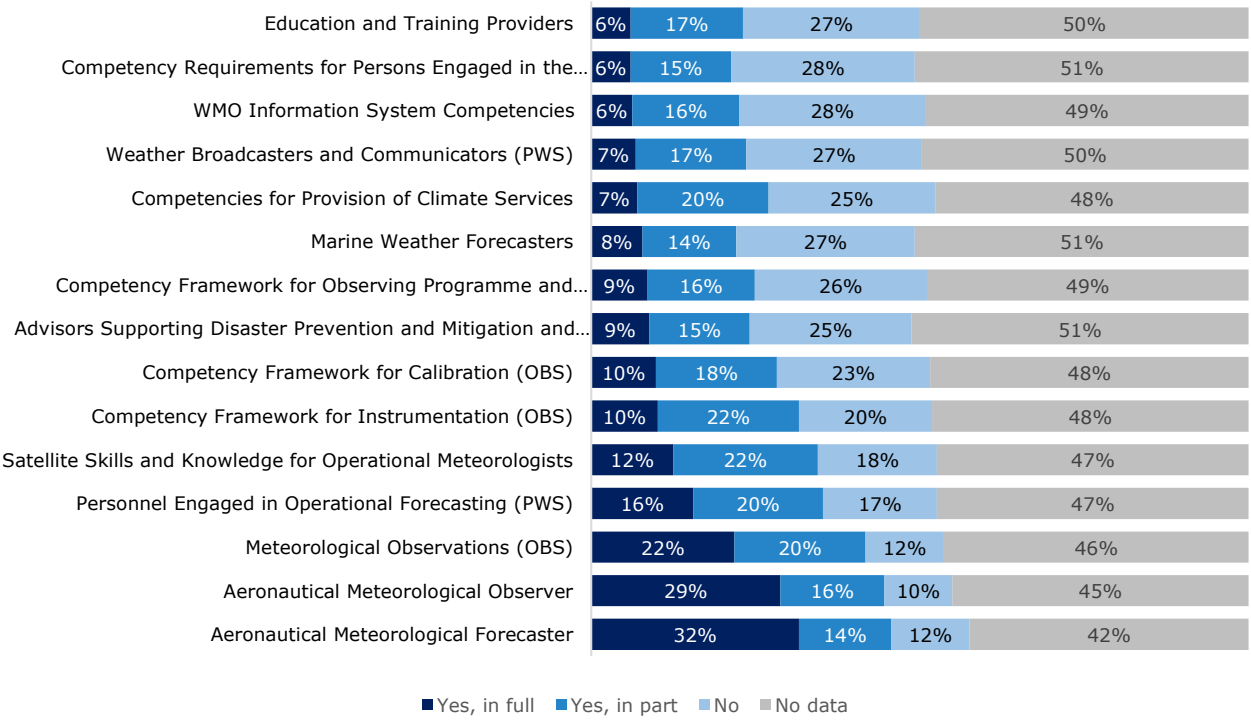

Figure 4.12: Proportion of Members that have implemented competency assessment and trainings according to WMO competency frameworks as of December 2021. Source: Survey on staff, competencies and qualifications

Focus Area B

- 3 external reviews of RTCs completed in 2022 (Indonesia, Italy and Türkiye), with the reports being finalized. Report on the external review of RTC Italy finalized.
- Global Campus Events Calendar continuously populated with training events and consulted by Members. The Calendar was consulted about 10,000 times during the reporting period, the majority originated in the Americas (35%), followed by Asia (26%), Europe (21%), and Africa (13%).
- Due to COVID-19 restrictions, physical exchange of trainers was impossible. On the other hand, the distance learning approach increased the opportunity of international lecturers to contribute to courses all around the globe, but better advertising and dedicated training for distance trainers might need to be considered.
- A global event held online on "Responding to Challenges Beyond the New Normal" with 175 attendees representing WMO RTCs and training partners from 33 countries (2021)
- WMO Online Course on Education and Training Innovations (2020)
- A training course for trainers of regional and national training centres in Region III delivered online and successfully completed by 43 participants, supported by 16 facilitators (2021).
- A two-week module (IX-Climate Change) conducted annually in collaboration with the University of Geneva on MEIG Programme (Masters of Advance Studies European and International Governance) in 2020-2023.
- A self-directed learning course "Introduction to Climpact: Generating Climate Indices to Support Climate Services" developed (2021);
- TOPaCS (Training Operational Package for Climate Services) released by RTC Italy. Each of the 11 courses is related to the WMO Competencies Framework for Climate Services Providers.
- A self-directed learning course "Introduction to Impact-Based Forecast Warning Services (IBFWS) developed and available through the WMO ETRP Learning Platform.
- WMO Marine Services Course delivered in all WMO regions. Phase I (online delivered in Spanish for Regions III and IV (2020), in English to the Pacific islands of Region V (2021), the Caribbean islands of Region IV (2022), and the English-speaking countries of Region I (2022). Phase II (face-to-face) was delivered in English to the Pacific islands in Region V (2022).

Publications and Guidance on Management of Training Institutions

- Global Campus Innovations published: Volume I – New Pedagogical Approaches; Volume II – Curriculum Advances; Volume III – Collaboration in Education and Training; Volume IV – Technology-enhanced Learning (2020);
- Impact of Training Programme on Climate Change Adaptation and Disaster Risk Reduction in Agriculture report (ETR-28) published (2021);
- Basic Instructional Package for Meteorologists (BIP-M) and Basic Instructional Package for Meteorological Technicians (BIP-MT) in final pre-publication stage;
- New material on implementation of the cloud-based CAP Editor (CAP-206) and its explanatory notes added to the WMO CAP E-Learning platform.

Forward perspective

Several guidance documents have been revised and are expected to be re-issued by end-2023, including Guide to the Management and Operation of WMO Regional Training Centres and Other Training Institutions (WMO-No. 1169), Guide to Competency (WMO-No. 1205), Guidelines for Trainers in Meteorological, Hydrological and Climate Services (WMO-No. 1114), and the Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology, Volume I – Meteorology (WMO-No. 1083). WMO will also continue facilitating the strengthening of Global Campus partnerships among RTCs and other education and training partners worldwide, through the use of the Events Calendar and additional tools that support the sharing of training information and resources, as well as through the support of events.

Project highlights

USAID/BHA | Flash Flood Guidance System (FFGS) Phase III

Global | CHF 7,3 Mio | 2019-2023

WMO and FFGS partners strive to reduce the risk of hydro-meteorological hazards through a capacity development cross-cutting component focused on: flood early warning and management, severe weather forecasting and warning, drought monitoring, development of operational procedures and strategies, dissemination and communication of warnings and information. For example, an introductory training on the FFGS system for forecasters and an operational training were successfully held for Colombia, Peru and Ecuador in April-May 2022. Other trainings took place in Viet Nam (July 2022) as well as for West African countries (December 2022) in cooperation with CREWS-funded projects in the respective regions. Over 100 male and female forecasters were trained in total.

Workshop held in Viet Nam (July 2022)

European Union | Focus Africa

Region I | CHF 1.1 Mio (WMO component) | 2020-2024

FOCUS-Africa Project identifies and addresses gaps in producing and delivering climate services in the Southern African Development Community (SADC) countries. In 2022, a report was finalized, which identifies training gaps in climate services provision for SADC countries, focusing on the Southern African Regional Climate Outlook Forum and the Southwest Indian Ocean Climate Outlook Forum training material gap analysis. The report identified the need for a comprehensive capacity building initiative to strengthen existing capabilities in the areas of governance, management, human resources development, leadership, partnership creation, science communication, service generation and delivery as well as resource mobilization. Based on the identified capacity gaps, a list of recommendations, as well as an action plan for developing training materials and conducting capacity development programmes in collaboration with international and regional partners was compiled, which is expected to strengthen the provision of climate services in SADC countries in the future.

Project highlights

Adaptation Fund | Integrating Flood and Drought Management and Early Warning for Climate Change Adaptation in the Volta Basin

Region I | CHF 7 Mio | 2019-2023

Six training workshops with more than 100 participants (including NMHSs) were organized to develop their capacities on nature-based solutions for flood and drought management. Community-based flood and drought management activities in the six Volta-basin countries were conducted to improve the community's self-help capabilities and resilience for floods and drought hazards, including early warning communication and dissemination with the national disaster management and NMHSs. More than 50 participants from NMHSs, water resources and disaster management were further trained on hydro-meteorological observation, modelling, forecasting and early warning systems.

Three-day Hybrid training on MyDewetra VOLTALARM EWS for the Volta Basin countries (July 2022)

CREWS Caribbean

RA IV | CHF 2,2 Mio (WMO Component) | 2018 – 2023

WMO, in collaboration with the US National Oceanic and Atmospheric Administration (NOAA) and Caribbean regional and national partners, developed an online Training Module "Caribbean Early Warnings Using the Potential Tropical Cyclone (PTC) Advisory" which can be accessed in the WMO Moodle. The effective use of the PTC advisory and associated guidance can be instrumental in improving the timeliness of impact-based warnings associated with developing tropical cyclones in the Caribbean.

CREWS Haiti

RA IV | CHF 1,5 Mio | 2021 - 2023

Through the project WMO provides support to the Hydrometeorological Unit of Haiti (UHM) to foster sustainable operability and the implementation of an efficient hydrometeorological early warning system. Despite the ongoing difficult situation in the country, 10 UHM staff members were trained in Aviation Quality Management (June 2022), which will support the professionalization of the services provided by UHM, especially to the National Office of Civil Aviation. Further, UHM provided trainings to the Haitian National Food Security Coordination and Directorate General for Civil Protection on the interpretation of meteorological information. Four trainings were held from February to July 2022.

Strategic Objective 4.3

Scale-up effective **partnerships for investment in sustainable and cost-efficient infrastructure and service delivery**

Outcome/Focus Area A:
Strengthen partnerships and alliances to share knowledge, technology and expertise with particular emphasis on the use of twinning arrangements

#Alliance for Hydromet Development #Innovative partnerships in support of developing countries' NMHS

Outcome/Focus Area B:
Enter into strategic, functional and mutually beneficial development partnerships and alliances with the key relevant UN, intergovernmental and nongovernmental organizations, development agencies, the private sector, and academia

#Alliance for Hydromet Development #GCF Climate Rationale

Outcome/Focus Area C:
Provide leadership in promoting the principles on which global meteorology is built, emphasizing authoritative voice, common standards, data and product sharing

#SOFF (see SO 2.1)

Overview

Strategic Objective 4.3

Scale-up effective partnerships for investment in sustainable and cost-efficient infrastructure and service delivery

SDG Contribution

ON TRACK

- **17 new projects with a total budget of approx. USD 65 million launched between 2020 and 2022, with investments in all six regions.**
- 95% of LDC, SIDS and developing Members supported through one or more assistance mechanisms.
- **Alliance for Hydromet Development launched and operational**.
- First Hydromet Gap Report issued and launched at the UN High-level Political Forum (UNHLPF) in July 2021.
- **Systematic Observations Financing Facility (SOFF) created as a new financing mechanism** to support countries to generate and exchange basic observational data (see SO 2.1 for more detailed information).
- Tools and methodology for a Climate Rationale launched with the Green Climate Fund at COP 26.

CONTINUED EFFORTS REQUIRED

- Country Hydromet Diagnostics Tool developed and road-tested in 9 countries (see SO 4.1). Countries and Alliance members participating in the road-testing valued the CHD as an authoritative assessment by peers that established the big picture and corresponding gaps as well as provided a common basis for more detailed analysis during project preparation. **The tool will be applied to 25 countries as part of the SOFF Readiness Phase, starting in April 2023.**
- Need to **strengthen partnerships with the UN economic and social commissions** in Africa, Asia and Latin America and the Caribbean.

COVID-19 IMPACT

- Implementation was only minimally affected (e.g., travel to conduct CHD assessments was not possible but all were successfully completed remotely).
- All outputs were delivered as planned and mostly within schedule.

CHALLENGES & RISKS

- The next round of CHD assessment reports and effective management of the peer review process should confirm the tool as an effective mechanism for informing project development and investments.
- Further resource mobilization should continue in a climate of growing economic uncertainty (e.g., rising inflation and energy prices).

On track

Continued efforts required

Limited progress

COVID-19 Impact

Challenges & Risks

Focus Areas

For monitoring purposes, WMO uses a list of 131 developing Members, adapted from the World Bank's classification on the basis of GNI per capita as of 2019 (comprising low-income, lower-middle income and upper-middle income economies) and from the list of LDCs and SIDS of the UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, as of December 2019, reflecting the membership of the WMO.

Of these 131 developing Members, 124 (or 95%) benefitted from WMO-catalyzed development projects in 2022, including (a) WMO advisory services[8], (b) emergency assistance through the WMO Voluntary Cooperation Programme (VCP), and (c) WMO projects[9]. Their distribution by region and Member (LDC, SIDS, other developing) is presented on Figure 4.13.

A total of approx. USD 65 million was further secured for 17 new projects in 2020-2022 (see Table 4.1).

See also SO 2.1 on SOFF.

Number of developing Members benefitting from WMO-catalyzed projects

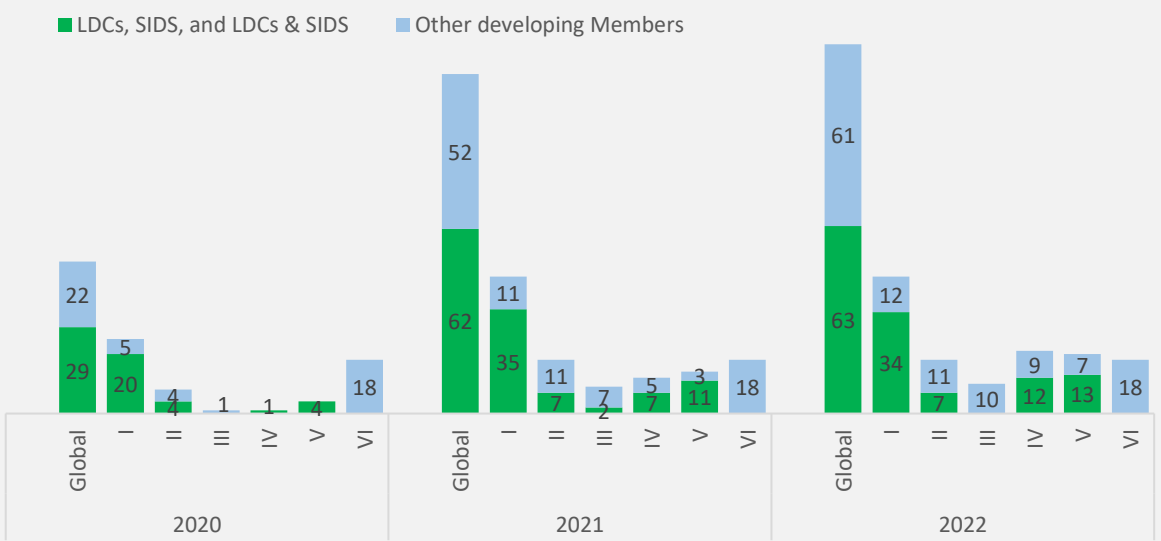

Figure 4.13: Number of developing Members benefitting from WMO-catalyzed projects, 2020-2022. Source: WMO

[8] WMO advisory services are defined as activities carried out by, or under the direction and responsibility of, the WMO Secretariat to provide advice and analysis to support Members and development partners in the design, implementation or evaluation of their policies, strategies, programmes and projects in technical areas relevant to the WMO mandate. They include, among others, analytical reports, hands-on advice, technical assistance and operational training

[9] WMO Projects are intended for development, technical assistance and technical cooperation implemented in WMO member countries, which require rigorous narrative and financial reporting and field activities.

Project name	Project amount
Côte d'Ivoire (Côte d'Ivoire)	USD 1,0 Mio
CREWS Central Africa	USD 2,5 Mio
CREWS Haiti	USD 1,5 Mio
CREWS Horn of Africa	USD 1,1 Mio
CREWS Lao &Cambodia	USD 3,6 Mio
CREWS Malawi	USD 1,5 Mio
CREWS Measuring Early Warning Effectiveness	USD 0,2 Mio
CREWS Pacific SIDS 2.0	USD 3,5 Mio
CREWS South West Indian Ocean	USD 1,6 Mio
Developing Capacities for effective Climate Services in Bhutan (KMA)	USD 0,128
ENANDES - Enhancing Adaptive Capacity of Andean Communities through Climate Services (Adaptation Fund)	USD 7,5 Mio
ENANDES + (SDC)	USD 5,9 Mio
Focus Africa (EU)	USD 1,1 Mio
Intra-ACP Climate-ServicesProgramme (ClimSA) (EU)	USD 5,9 Mio
Multi-Hazard Hydromet Early Warning & Capacity Building (USAID)	USD 25,0 Mio
Technical Cooperation for the Assessment of Hydromet Services in Latin America (IDB)	USD 0,3 Mio
WMO HydroHub Phase II (SDC)	USD 2,5 Mio

Table 4.1: New projects and the respective project amount, March 2023.

Alliance for Hydromet Development

Featured in this report earlier (see LTG 4 highlights), the launch of the Alliance for Hydromet Development was among the key developments that took place in the reporting period. It prioritized three activities for early collective action: (1) deploying a common tool to benchmark and assess countries' hydromet capacity gaps – the Country Hydromet Diagnostics (see SO 4.1); second, creating an innovative mechanism to finance developing country surface-based weather and climate observations – SOFF (see SO 2.1); and third, producing a regular Hydromet Gap Report to track progress on closing the hydromet capacity gap (see LTG 4 highlights).

In the Report, the Alliance recognized with urgency the mounting impacts of climate change especially on the world's poorest and most vulnerable countries. It shared the concern that many developing countries were facing major capacity constraints to provide hydromet services as the foundation for resilient and sustainable development. The Alliance aims to increase effectiveness and sustainability of hydromet investments through collective action.

Alliance members

1. Adaptation Fund
2. African Development Bank
3. Asian Development Bank
4. Climate Investment Funds
5. European Bank for Reconstruction and Development
6. Global Environment Facility
7. Green Climate Fund
8. Inter-American Development Bank
9. Islamic Development Bank
10. United Nations Development Programme
11. United Nations Environment Programme
12. World Bank
13. World Food Programme
14. World Meteorological Organization

Partners

1. African Ministerial Conference on Meteorology
2. Centre For Disaster Protection
3. Climate Risk and Early Warning Systems
4. Food and Agriculture Organization
5. Global Center on Adaptation
6. InsuResilience Solutions Fund
7. International Fund for Agricultural Development
8. Risk-informed Early Action Partnership
9. United Nations Office for Disaster Risk Reduction

Climate Rationale

In partnership with the Green Climate Fund (GCF), WMO launched several important tools and methodology at COP 26:

- A **Climate Information Platform** that provides access to projections of over a dozen climate change indices for the globe, e.g. coupled atmospheric and ocean monitoring and regional climate modelling (Home - Climate Information).
- **Online access to Climpact** – for calculation of over 70 indices associated with climate impacts, from historical daily temperature and precipitation data (Climpact (climpact-sci.org)).

In 2022 Developing the Climate Science Information for Climate Action (WMO-No. 1287) was published, providing access to new climate information, tools, and guidance to develop the scientific basis for climate action decisions, particularly for climate adaptation and resilience projects. Providing these products can help countries identify and select the most effective climate actions to overcome the various challenges of climate change. In doing so, the guidance can contribute to country-level decision-making and the mobilization of climate finance.

Africa Partner Coordination Mechanism (APCM)

As part the effort to strengthen effective partnerships and enhance cooperation among Hydromet Development Stakeholders (donors and implementing agencies), WMO developed the Africa Partner Coordination Mechanism (APCM) as a regional platform for information sharing on programmes and projects in Africa.

APCM is expected to facilitate the alignment of development partners' objectives with national and regionally identified priorities and needs, critical to ensure ownership of the interventions and maximize the impact and sustainability of investments. Its framework for engagement includes four key components: (i) annual meeting with donors and implementing partners, (ii) special programme focus sessions, (iii) ad-hoc focus group discussions on specific topics, and (iv) APCM Data Analysis Dashboard.

After a successful launch in 2021, APCM was consolidated in 2022 and will be further expanded in 2023.

Forward perspective

By the end of 2023, WMO expects to renew its agreements with existing donors, especially CREWS and the Adaptation Fund, as well as identify new funding opportunities. There are currently 18 projects in the pipeline, which are either under development or pending approval with the respective donors.

WMO will further place emphasis on strengthening its partnership with UN regional organizations, particularly with the economic commissions. It will expand cooperation with the Partner Coordination Mechanism to the Pacific Region. It will also reinforce relations with the UNDRR regional offices.

More CHD reports are expected to inform the work of the Alliance for Hydromet Development, SOFF and CREWS, using recent monitoring data collected from Members. To close the weather and climate observation gap, SOFF is expected to support 55 countries in its 3-year implementation period.

Project highlights

CREWS South-West Indian Ocean

RA I | CHF 1,6 Mio | 2020-2024

The project supports NMHSs and WMO regional centers to strengthen national forecasting and warning systems in the South-West Indian Ocean: Mauritius, Comoros, Seychelles, Madagascar and Mozambique. In addition to support provided directly to countries and regional centers, WMO provides advisory services to the Indian Ocean Commission in relation to the implementation of USD 71.4 million "Building Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the IOC Member States," funded by GCF, the EU (ClimSA) and the French Development Agency.

CREWS Caribbean

RA IV | CHF 2,2 Mio (WMO Component) | 2018 - 2023

Under the CREWS Caribbean Project, WMO is collaborating with the Finnish Meteorological institute, the Jamaican Met-Service, the Caribbean Climate Innovation Centre and Resurgence in the sub-project "Building Resilience Through Climate Adaptation Technologies (BReTCAT) in Jamaica." The initiative is supported through funding from the Inter-American Development Bank and CREWS Caribbean with approx. USD 500,000. BReTCAT develops a national weather application (including a daily, marine and MHEWS forecast) and updates the MSJ website integrating the new forecasts, using the Finnish SmartMet and SMartAlert systems. The app and website will be launched in Q2 of 2023 and will strongly improve the dissemination of warnings and increase the outreach to Jamaica's most vulnerable population.